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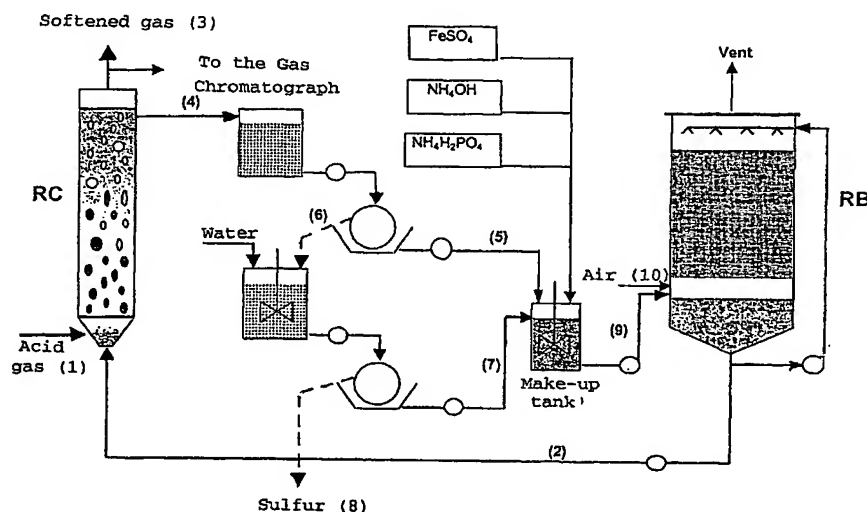
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(54) Title: **CHEMICAL-BIOLOGICAL PROCESS FOR THE REMOVAL OF H₂S FROM A GAS**



(57) Abstract: The present application relates to a process for removing hydrogen sulfide H₂S from a gas (1) by contacting said gas with a liquid solution (2) containing ferric sulfate in an absorption column (RC). Ferric sulfate and H₂S react at room temperature and at a pressure ranging from 1 to 1.2 atm., Ferric ions being reduced to two-valent iron and sulfide oxidised to elemental sulfur. The liquid (4) coming out of the absorption column is filtered in two steps, the retentate (6, 8) comprising elemental sulfur, the filtrate (5, 7) containing the iron ions. The filtrate is sent to a bioreactor (RB) for regeneration, i.e. oxidation of iron to Fe³⁺ by means of thiobacillus ferrooxidans and air injection (10). The regenerated solution is reused in the absorption column (RC). The process faces the problems relating to the alignment between the chemical step and the biological step in order to obtain a process which can stably run continuously.



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